FIG. 1A

KCNQ5 cDNA coding sequence

```
atgaaggatg tggagtcggg ccggggcagg gtgctgctga   40
actcggcagc cgccaggggc gacggcctgc tactgctggg   80
cacccgcgcg gccacgcttg gtggcggcgg cggtggcctg  120
agggagagcc gccggggcaa gcagggggcc cggatgagcc  160
tgctggggaa gccgctctct tacacgagta gccagagctg  200
ccggcgcaac gtcaagtacc ggcgggtgca gaactacctg  240
tacaacgtgc tggagagacc ccgcggctgg gcgttcatct  280
accacgcttt cgtttttctc cttgtctttg gttgcttgat  320
tttgtcagtg ttttctacca tccctgagca cacaaaattg  360
gcctcaagtt gcctcttgat cctggagttc gtgatgattg  400
tcgtctttgg tttggagttc atcattcgaa tctggtctgc  440
gggttgctgt tgtcgatata gaggatggca aggaagactg  480
aggtttgctc gaaagccctt ctgtgttata gataccattg  520
ttcttatcgc ttcaatagca gttgtttctg caaaaactca  560
gggtaatatt tttgccacgt ctgcactcag aagtctccgt  600
ttcctacaga tcctccgcat ggtgcgcatg gaccgaaggg  640
gaggcacttg gaaattactg ggttcagtgg tttatgctca  680
cagcaaggaa ttaatcacag cttggtacat aggatttttg  720
gttcttattt tttcgtcttt ccttgtctat ctggtggaaa  760
```

FIG. 1B

```
aggatgccaa taaagagttt tctacatatg cagatgctct   800
ctggtggggc acaattacat tgacaactat tggctatgga   840
gacaaaactc ccctaacttg gctgggaaga ttgctttctg   880
caggctttgc actccttggc atttctttct ttgcacttcc   920
tgccggcatt cttggctcag gttttgcatt aaaagtacaa   960
gaacaacacc gccagaaaca ctttgagaaa agaaggaacc  1000
cagctgccaa cctcattcag tgtgtttggc gtagttacgc  1040
agctgatgag aaatctgttt ccattgcaac ctggaagcca  1080
cacttgaagg ccttgcacac ctgcagccct accaagaaag  1120
aacaagggga agcatcaagc agtcagaagc taagttttaa  1160
ggagcgagtg cgcatggcta gccccagggg ccagagtatt  1200
aagagccgac aagcctcagt aggtgacagg aggtccccaa  1240
gcaccgacat cacagccgag ggcagtccca ccaaagtgca  1280
gaagagctgg agcttcaacg accgaacccg cttccggccc  1320
tcgctgcgcc tcaaaagttc tcagccaaaa ccagtgatag  1360
atgctgacac agcccttggc actgatgatg tatatgatga  1400
aaaaggatgc cagtgtgatg tatcagtgga agacctcacc  1440
ccaccactta aaactgtcat tcgagctatc agaattatga  1480
aatttcatgt tgcaaaacgg aagtttaagg aaacgttacg  1520
tccatatgat gtaaaagatg tcattgaaca atattctgct  1560
```

FIG. 1C

ggtcatctgg acatgttgtg tagaattaaa agccttcaaa 1600

cacgtgttga tcaaattctt ggaaaagggc aaatcacatc 1640

agataagaag agccgagaga aaataacagc agaacatgag 1680

accacagacg atctcagtat gctcggtcgg gtggtcaagg 1720

ttgaaaaaca ggtacagtcc atagagtcca agctggactg 1760

cctactagac atctatcaac aggtccttcg gaaaggctct 1800

gcctcagccc tcgctttggc ttcattccag atcccacctt 1840

ttgaatgtga acagacatct gactatcaaa gccctgtgga 1880

tagcaaagat ctttcgggtt ccgcacaaaa cagtggctgc 1920

ttatccagat caactagtgc caacatctcg agaggcctgc 1960

agttcattct gacgccaaat gagttcagtg cccagacttt 2000

ctacgcgctt agccctacta tgcacagtca agcaacacag 2040

gtgccaatta gtcaaagcga tggctcagca gtggcagcca 2080

ccaacaccat tgcaaaccaa ataaatacgg cacccaagcc 2120

agcagcccca acaactttac agatcccacc tcctctccca 2160

gccatcaagc atctgcccag gccagaaact ctgcacccta 2200

accctgcagg cttacaggaa agcatttctg acgtcaccac 2240

ctgccttgtt gcctccaagg aaaatgttca ggttgcacag 2280

tcaaatctca ccaaggaccg ttctatgagg aaaagctttg 2320

acatgggagg agaaactctg ttgtctgtct gtcccatggt 2360

gccgaaggac ttgggcaaat ctttgtctgt gcaaaacctg 2400

atcaggtcga ccgaggaact gaatatacaa ctttcaggga 2440

FIG. 1D

```
gtgagtcaag tggctccaga ggcagccaag atttttaccc  2480
caaatggagg gaatccaaat tgtttataac tgatgaagag  2520
gtgggtcccg aagagacaga gacagacact tttgatgccg  2560
caccgcagcc tgccagggaa gctgcctttg catcagactc  2600
tctaaggact ggaaggtcac gatcatctca gagcatttgt  2640
aaggcaggag aaagtacaga tgccctcagc ttgcctcatg  2680
tcaaactgaa ataa                              2694
```

FIG. 2A

KCNQ5 Protein Sequence

MKDVESGRGR	VLLNSAAARG	DGLLLLGTRA	ATLGGGGGGL	40
RESRRGKQGA	RMSLLGKPLS	YTSSQSCRRN	VKYRRVQNYL	80
YNVLERPRGW	AFIYHAFVFL	LVFGCLILSV	FSTIPEHTKL	120
ASSCLLILEF	VMIVVFGLEF	IIRIWSAGCC	CRYRGWQGRL	160
RFARKPFCVI	DTIVLIASIA	VVSAKTQGNI	FATSALRSLR	200
FLQILRMVRM	DRRGGTWKLL	GSVVYAHSKE	LITAWYIGFL	240
VLIFSSFLVY	LVEKDANKEF	STYADALWWG	TITLTTIGYG	280
DKTPLTWLGR	LLSAGFALLG	ISFFALPAGI	LGSGFALKVQ	320
EQHRQKHFEK	RRNPAANLIQ	CVWRSYAADE	KSVSIATWKP	360
HLKALHTCSP	TKKEQGEASS	SQKLSFKERV	RMASPRGQSI	400
KSRQASVGDR	RSPSTDITAE	GSPTKVQKSW	SFNDRTRFRP	440
SLRLKSSQPK	PVIDADTALG	TDDVYDEKGC	QCDVSVEDLT	480
PPLKTVIRAI	RIMKFHVAKR	KFKETLRPYD	VKDVIEQYSA	520
GHLDMLCRIK	SLQTRVDQIL	GKGQITSDKK	SREKITAEHE	560
TTDDLSMLGR	VVKVEKQVQS	IESKLDCLLD	IYQQVLRKGS	600
ASALALASFQ	IPPFECEQTS	DYQSPVDSKD	LSGSAQNSGC	640
LSRSTSANIS	RGLQFILTPN	EFSAQTFYAL	SPTMHSQATQ	680
VPISQSDGSA	VAATNTIANQ	INTAPKPAAP	TTLQIPPPLP	720
AIKHLPRPET	LHPNPAGLQE	SISDVTTCLV	ASKENVQVAQ	760
SNLTKDRSMR	KSFDMGGETL	LSVCPMVPKD	LGKSLSVQNL	800
IRSTEELNIQ	LSGSESSGSR	GSQDFYPKWR	ESKLFITDEE	840

FIG. 2B

VGPEETETDT FDAAPQPARE AAFASDSLRT GRSRSSQSIC 880

KAGESTDALS LPHVKLK 897

FIG. 3

Alternative Splice Exon 1

TGG	GGA	CAG	TGG	ACA	TTG	CGT
Trp	Gly	Gln	Trp	Thr	Leu	Arg

FIG. 4A

3' UTR

gttcttcatt ttctttccag gcatagcagt tctttagcca 40

tacatatcat tgcatgaact atttcgaaag cccttctaaa 80

aagttgaaat tgcaagaatc gggaagaaca tgaaaggcag 120

tttataagcc cgttaccttt taattgcatg aaaatgcatg 160

tttagggatg gctaaaattc caaggtgcat cgacattaac 200

ccactcattt agtaatgtac cttgagttaa aaagcctgag 240

aaaccaaaca cagctaatgc tatggggtgt atgaatatgt 280

caagtttagg tcatttagaa gatttgacac tgtattttga 320

aattatgagt aaacaccttc aaatttcagg catttctgct 360

ttgtgactaa atacaaacta cattttcaag attaggccat 400

aatgtatatt taaacacaat ggctatcaac agctgctaat 440

aaggtatcaa ctaaagcaga attggggaat aatagaaatg 480

gctgcttatt tcaagatata tttgccaacc cattcctatt 520

cagtcatttt attattaatg taatttgaat gtcaatttgt 560

gtgcttttgg tgatttagcg ctgtggcaag caattttgca 600

catcattttc atgttgttct ttatgacaag aatgttcttc 640

aattagaaaa tgtgcaaata atgaaattca gggccagtga 680

ggcaaataga ctatctgaca tatttgactt tatgaaaaca 720

tattgcctga tggcagaatc aactttataa gtggtcaact 760

tctacacaag cgtatgaaat actggtcagt agaacagcca 800

FIG. 4B

ttgtgattgg actggtttct ctgcaatggc gccaacccca 840

ggcttgccaa tactgcctat gtaaagggca agtgtgagaa 880

gctattctca tttcgctgac atacaggtag gactatgggg 920

gatgggacat ttgagtggga ctgagatagg aaaggcttga 960

aaagaaccca gaaacaccac caggaagttg gcaaagtaaa 1000

agaaaatgac ttcccoctca aagggcaatg agagggagag 1040

aaacaaacca aaatagaaga actagacttt ttagaaaatg 1080

agtattgcta 1090

FIG. 5A

Multiple Sequence Alignment of the KCNQ Channel Family Members

```
hskcnq4 ~~~~~~~~~~~~~~~~~~~~~MAEAPPRRLGLGPPPGDAPRAE.LVALTAVQSEQGEAG.
hskcnq5 ~~~~~~~~~~~~~~~~~~~~~~MKDVESGR.GRVLLNSAAARGDGLLLLGTRAATLGGGG.
hskcnq2 ~~~~~~~~~~~~~~~~~~~~~~~~MVQKSRNG.GVYPG..PSGEKKLKVGFVGLDPG.AP.
hskcnq3 MGLKARRAAGAAGGGGDGGGGGGGAANPAGGDAAAAGDEERKVGLAPGDVEQVTLALGA.
hskcnq1 ~~~~~~~~~~~~~~~MAAASSPPRAERKRWGWGRLPGARRGSAGLAKKCPFSLELAEGGP

hskcnq4 GGGSPRRLGLLGSPLP.PGAPLPGPGSG.SGSACGQRSSAA.HKR...Y..RR.......
hskcnq5 GGLRESRRGKQGARMSLLGKPL...SYT.SSQSC.RR.....NVK...Y..RR.......
hskcnq2 DSTRDGALLIAGSEAPKRGSILSKPRAG.GAGA..GKPPKR.NAF...Y..RK.......
hskcnq3 GADKDGTLLLEGGGRDE.GQRRTPQGIGLLAKTPLSRPVKRNNAK...Y..RR.......
hskcnq1 AGGALYAPIAPGAPGPAPPASPAAPAAPPVASDLGPRPPVSLDPRVSIYSTRRPVLARTH

hskcnq4 LQNWVYNVLERPRGW.AFVYHVFIFLLVFSCLVLSVLSTIQEHQELANECLLILEFVMIV
hskcnq5 VQNYLYNVLERPRGW.AFIYHAFVFLLVFGCLILSVFSTIPEHTKLASSCLLILEFVMIV
hskcnq2 LQNFLYNVLERPRGW.AFIYHAYVFLLVFSCLVLSVFSTIKEYEKSSEGALYILEIVTIV
hskcnq3 IQTLIYDALERPRGW.ALLYHALVFLIVLGCLILAVLTTFKEYETVSGDWLLLLETFAIF
hskcnq1 VQGRVYNFLERPTGWKCFVYHFAVFLIVLVCLIFSVLSTIEQYAALATGTLFWMEIVLVV

hskcnq4 VFGLEYIVRVWSAGCCCRYRGWQGRFRFARKPFCVIDFIVFVASVAVIAAGTQGNIFATS
hskcnq5 VFGLEFIIRIWSAGCCCRYRGWQGRLRFARKPFCVIDTIVLIASIAVVSAKTQGNIFATS
hskcnq2 VFGVEYFVRIWAAGCCCRYRGWRGRLKFARKPFCVIDIMVLIASIAVLAAGSQGNVFATS
hskcnq3 IFGAEFALRIWAAGCCCRYKGWRGRLKFARKPLCMLDIFVLIASVPVVAVGNQGNVLATS
hskcnq1 FFGTEYVVRLWSAGCRSKYVGLWGRLRFARKPISIIDLIVVVASMVVLCVGSKGQVFATS

hskcnq4 AIRSMRFLQILRMVRMDRRGGTWKLLGSVVYAHSKELITAWYIGFLVLIFASFLVYLAEK
hskcnq5 AIRSLRFLQILRMVRMDRRGGTWKLLGSVVYAHSKELITAWYIGFLVLIFSSFLVYLVEK
hskcnq2 AIRSLRFLQILRMIRMDRRGGTWKLLGSVVYAHSKELVTAWYIGFLCLILASFLVYLAEK
hskcnq3 .LRSLRFLQILRMLRMDRRGGTWKLLGSAICAHSKELITAWYIGFLTLILSSFLVYLVEK
hskcnq1 AIRGIRFLQILRMLHVDRQGGTWRLLGSVVFIHRQELITTLYIGFLGLIFSSYFVYLAEK

hskcnq4 DA..........NSDFSSYADSLWWGTITLTTIGYGDKTPHTWLGRVLAAGFALLGISFF
hskcnq5 DA..........NKEFSTYADALWWGTITLTTIGYGDKTPLTWLGRLLSAGFALLGISFF
hskcnq2 GE..........NDHFDTYADALWWGLITLTTIGYGDKYPQTWNGRLLAATFTLIGVSFF
hskcnq3 DVPEVDAQGEEMKEEFETYADALWWGLITLATIGYGDKTPKTWEGRLIAATFSLIGVSFF
hskcnq1 DAVNESGRV.....EFGSYADALWWGVVTVTTIGYGDKVPQTWVGKTIASCFSVFAISFF

hskcnq4 ALPAGILGSGFALKVQEQHRQKHFEKRRMPAANLIQAAWRLYSTDMSRAYLTATWYYYDS
hskcnq5 ALPAGILGSGFALKVQEQHRQKHFEKRRNPAANLIQCVWRSYAAD.EKSVSIATW.....
hskcnq2 ALPAGILGSGFALKVQEQHRQKHFEKRRNPAAGLIQSAWRFYATNLSRTDLHSTWQYYER
hskcnq3 ALPAGILGSGLALKVQEQHRQKHFEKRRKPAAELIQAAWRYYATNPNRIDLVATWRFYES
hskcnq1 ALPAGILGSGFALKVQQKQRQKHFNRQIPAAASLIQTAWRCYAAENPDS...STWKIY..

hskcnq4 ..ILPSFRELALLFEHVQRARNGGLRPLEVRRAPVPDGAPSRYPPVATCHRPGSTSFCPG
hskcnq5 ...KPHLKAL.....HT...................CSPTK.......KEQGEAS....
hskcnq2 TVTVPMYRLIPPLNQLELLRNLKSKSGLAFRKDPPPEPSP...................
hskcnq3 VVSFPFFR.....................................KEQLEAA....
hskcnq1 ......IRKAP..RSHTLLS...............PSPKPKKSVVVKKKKFKLDKDNGVT
```

FIG. 5B

```
hskcnq4 ESSRMGIKDRIRMGSSQRRTGPS.KQQLAPPTMPTSPSSEQVGEATSPTKVQKSWSFNDR
hskcnq5 SSQKLSFKERVRMASPRGQSIKS.RQ..ASVGDRRSPSTDITAEG.SPTKVQKSWSFNDR
hskcnq2 .SQKVSLKDRV.FSSPRGVAAKG.KGSPQAQTVRRSPSADQSLE.DSPSKVPKSWSFGDR
hskcnq3 SSQKLGLLDRVRLSNPRGSNTKG.KLF........TPLNVDAIE.ESPSKEPKPVGLNNK
hskcnq1 PGEKMLTVPHITCDPPEERRLDHFSVDGYDSSVRKSPT...LLEVSMP............

hskcnq4 TRFRASLRL.....KPRTSAEDA.PSEEVAEEKSYQCELTVDDIMPAVKTVIRSIRILKF
hskcnq5 TRFRPSLRLKSSQPKPVIDADTALGTDDVYDEKGCQCDVSVEDLTPPLKTVIRAIRIMKF
hskcnq2 SRARQAFRIKGAASR.QNSEEASLPGEDIVDDKSCPCEFVTEDLTPGLKVSIRAVCVMRF
hskcnq3 ERFRTAFRMKAYAFWQ..SSEDAGTGDPMAEDRGYGNDFPIEDMIPTLKAAIRAVRILQF
hskcnq1 .HF...MRTNSFAEDLDLEGETLLT..PITH.........ISQLREHHRATIKVIRRMQY

hskcnq4 LVAKRKFKETLRPYDVKDVIEQYSAGHLDMLGRIKSLQTRVDQIVGRG...PGDR.KARE
hskcnq5 HVAKRKFKETLRPYDVKDVIEQYSAGHLDMLCRIKSLQTRVDQILGKGQI.TSDK.KSRE
hskcnq2 LVSKRKFKESLRPYDVMDVIEQYSAGHLDMLSRIKSLQSRVDQIVGRGPA.ITD..KDR.
hskcnq3 RLYKKKFKETLRPYDVKDVIEQYSAGHLDMLSRIKYLQTRIDMIFTPGPP.STPKHKKSQ
hskcnq1 FVAKKKFQQARKPYDVRDVIEQYSQGHLNLMVRIKELQRRLDQSIGKPSLFISVSEKSKD

hskcnq4 KGDKG................PSDAEVVDEISMMGRVVKVE..KQVQSIEHKLDLLLGFY
hskcnq5 ...KI................TAEHETTDDLSMLGRVVKVE..KQVQSIESKLDCLLDIY
hskcnq2 ..TKG................PAEAELPEDPSMMGRLGKVE..KQVLSMEKKLDFLVNIY
hskcnq3 KGSAFTFPSQQSPRNEPYVARPSTSEI.EDQSMMGKFVKVE..RQVQDMGKKLDFLVDMH
hskcnq1 RGSNTIGARLNRVEDKVTQLDQRLALITD...MLHQLLSLHGGSTPGSGGPPREGGAHIT

hskcnq4 SRCLRSGT..SA.SLGAVQVPLFDPDITSDYHSPVDH..EDISVSAQTLS.ISRSVSTNM
hskcnq5 QQVLRKGSA.SALALASFQIPPFECEQTSDYQSPVDS..KDLSGSAQNSGCLSRSTSANI
hskcnq2 MQ..RMGIP.PTETEAYFGAK..EPEPAPPYHSPEDS..RE...HVDRHGCIVKIVRSSS
hskcnq3 MQHMER...........LQVQVTEYYPTKGTSSPAEAEKKEDNRYSDLKTIICNYSETGP
hskcnq1 QPCGSGGSVDPELFLPSNTLPTYE.QLTVPRRGPDEGS~~~~~~~~~~~~~~~~~~~~~~

hskcnq4 D~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
hskcnq5 SRGLQFI..LTPNEFSAQTFYALSPTMHSQATQVPISQSDGSAVAATNTIANQINTAPKP
hskcnq2 STGQKNF..SAPPAAPP....VQCPPSTSWQPQSHPRQGHGTSPVGDHGSLVRIPPPPAH
hskcnq3 PEPPYSFHQVTIDKVSPYGFFAHDPVNLPRGGPSS.GKVQATPPSSATTYVERPTVLPIL
hskcnq1 ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

hskcnq4 ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
hskcnq5 AAPTTLQIPPPLPAIKHLPRPETLHPNPAGLQESISDVTTCLVASKENVQVAQSNLTKDR
hskcnq2 ERSLSAYGGGNRASMEFLRQEDTPGCRPPEGTLRDSDTSISIPSVDHEELERSFSGFSIS
hskcnq3 TLLDSRVSCHSQADLQG.PYSDRISPRQRRSITRDSDTPLSLMSVNHEELERSPSGFSIS
hskcnq1 ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

hskcnq4 ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
hskcnq5 SMRKSFDMGGETLLSVCPMVPK....DLGKSLSVQNLIRSTEELNIQLSGSESSGSRGSQ
hskcnq2 QSKENLDALNSCYAAVAPCAKVRPYIAEGESDTDSDLCTPCGPPPRSATGEGPFGDVGWA
hskcnq3 QDRDDYVFGPN...GGSSWMREKRYLAEGETDTDTDPFTPSGSMPLSSTGDGISDSVWTP
hskcnq1 ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
```

FIG. 5C

```
hskcnq4 ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
hskcnq5 DFYPKWRESKLFITDEEVGPEETETDTFDAAPQPAREAAFASDSLRTGRSRSSQSICKAG
hskcnq2 GPRK~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
hskcnq3 SNKPI~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
hskcnq1 ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

hskcnq4 ~~~~~~~~~~~~~~
hskcnq5 ESTDALSLPHVKLK
hskcnq2 ~~~~~~~~~~~~~~
hskcnq3 ~~~~~~~~~~~~~~
hskcnq1 ~~~~~~~~~~~~~~
```

FIG. 6A

Human RNA Master Blot

TABLE 1

	1	2	3	4	5	6	7	8
A	whole brain	amygdala	Caudate nucleus	cerebellum	cerebral cortex	frontal lobe	hippocampus	medulla oblongata
B	occipital pole	putamen	substantia nigra	temporal lobe	thalamus	Subthalamic nucleus	spinal cord	
C	heart	aorta	Skeletal muscle	colon	bladder	uterus	prostate	stomach
D	testis	ovary	pancreas	pituitary gland	adrenal gland	thyroid gland	salivary gland	mammary gland
E	kidney	liver	small intestine	spleen	thymus	peripheral leukocyte	lymph node	bone marrow
F	Appendix	lung	trachea	placenta				
G	fetal brain	fetal heart	fetal kidney	fetal liver	fetal spleen	fetal thymus	fetal lung	
H	yeast total RNA	yeast tRNA	E. *coli* rRNA	E. *coli* DNA	Poly r(A)	human C_0t DNA	human DNA	human DNA

FIG. 6B

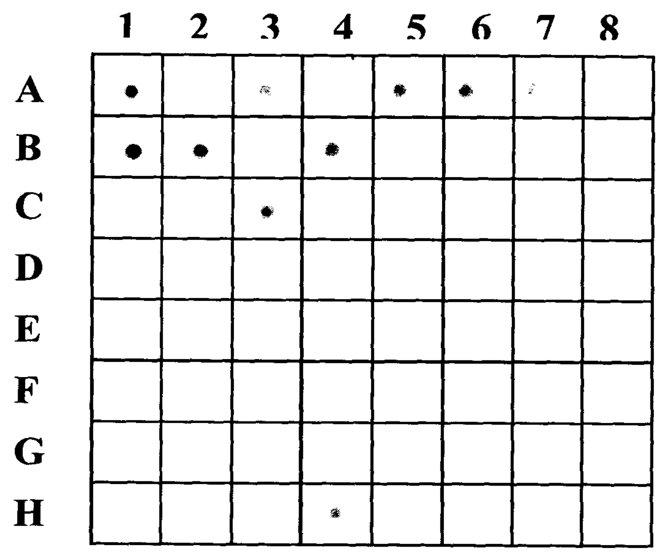


FIG. 7

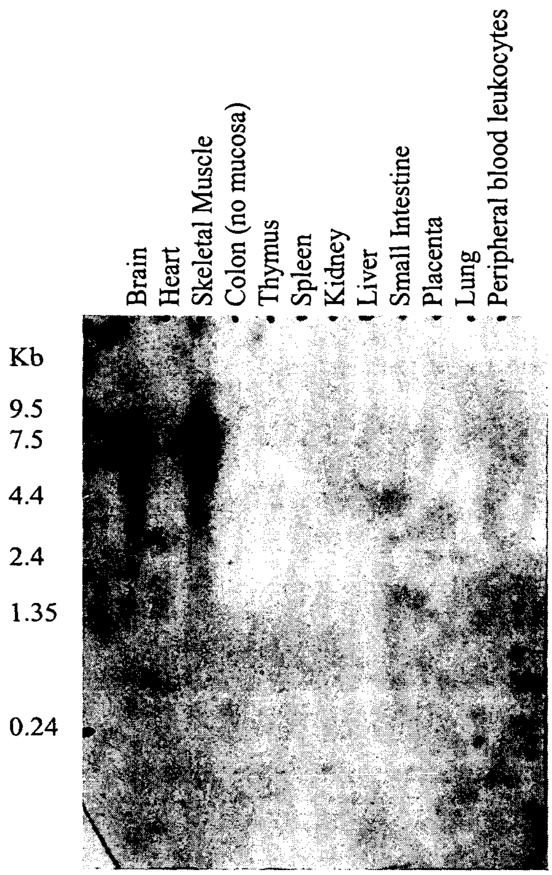
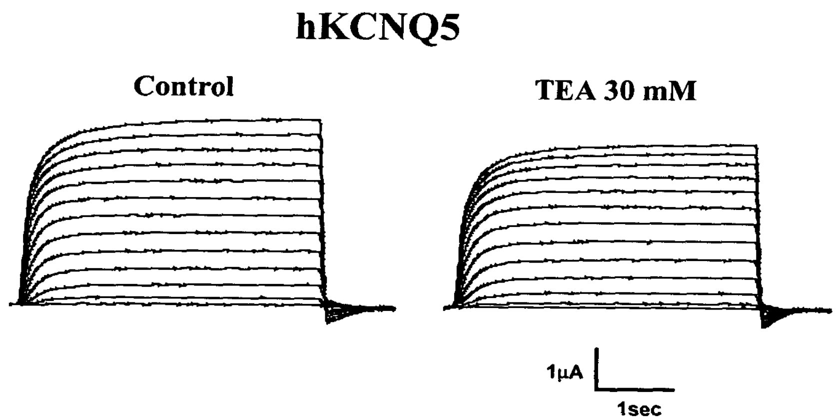

Brain
Heart
Skeletal Muscle
Colon (no mucosa)
Thymus
Spleen
Kidney
Liver
Small Intestine
Placenta
Lung
Peripheral blood leukocytes
Kb
9.5
7.5
4.4
2.4
1.35
0.24

FIG. 8



Antisense

Sense

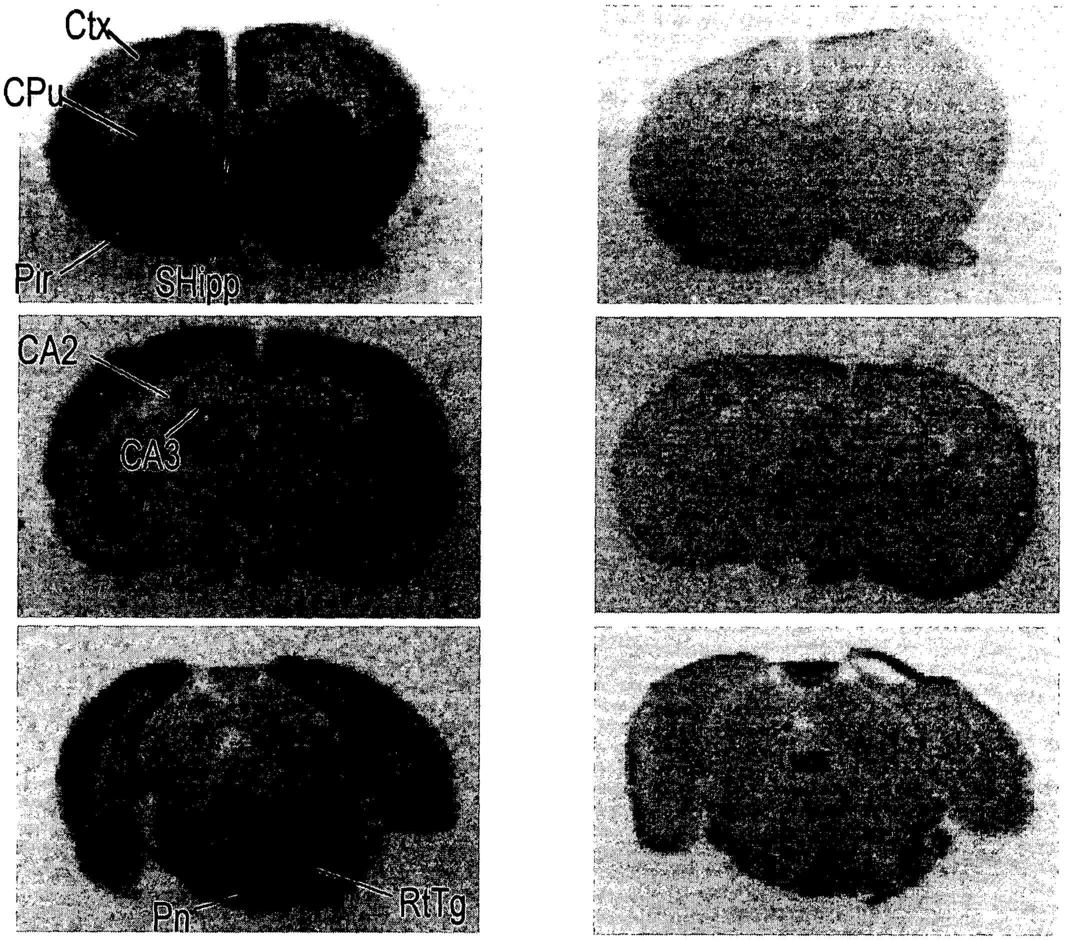


FIG. 9A

FIG. 9B

FIG. 9C

FIG. 9D

FIG. 9E

FIG. 9F

FIG. 10A

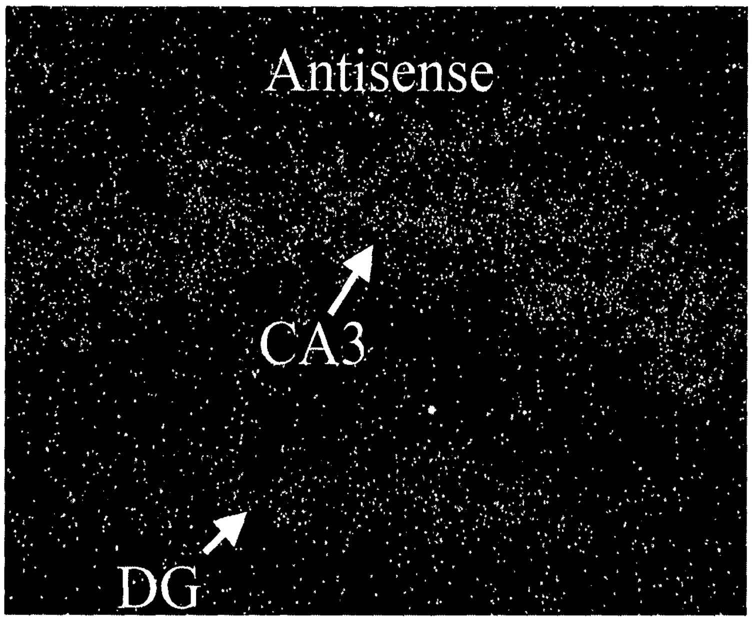


FIG. 10B

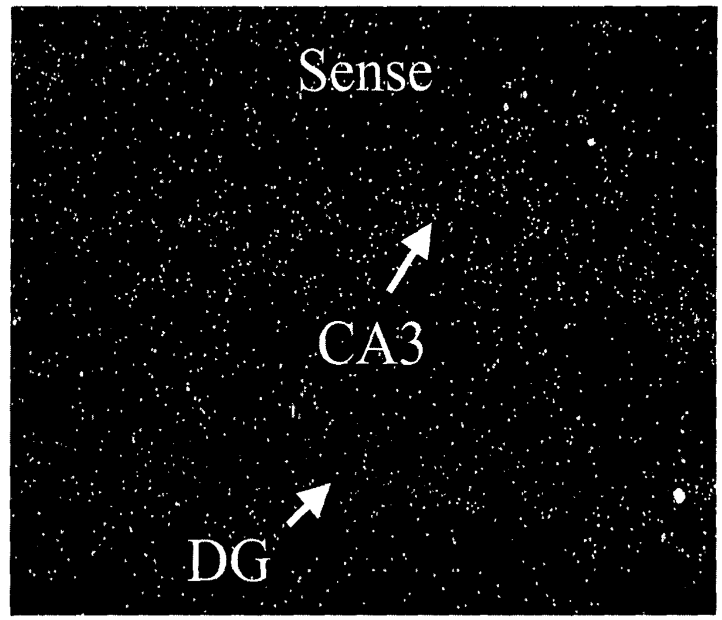


FIG. 11

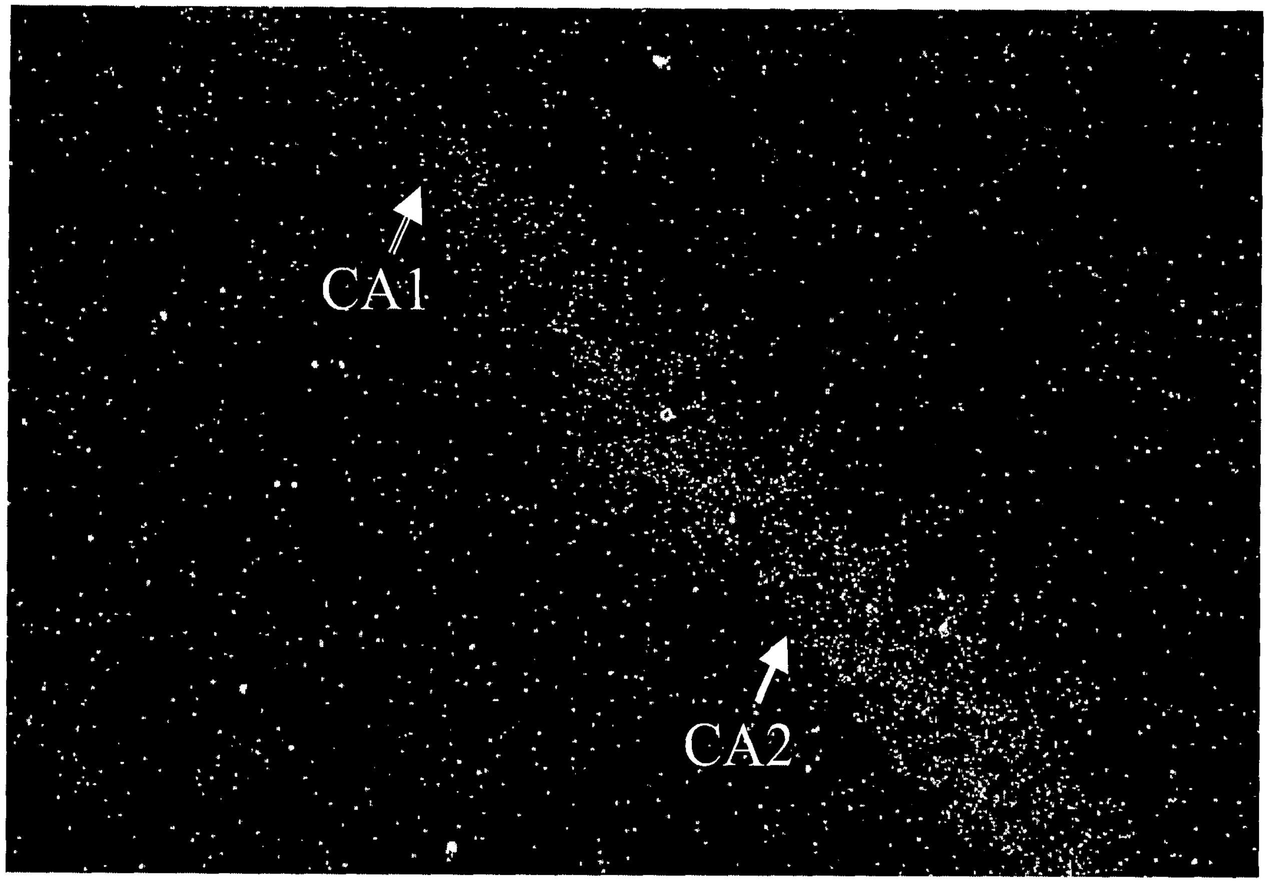


FIG. 12A

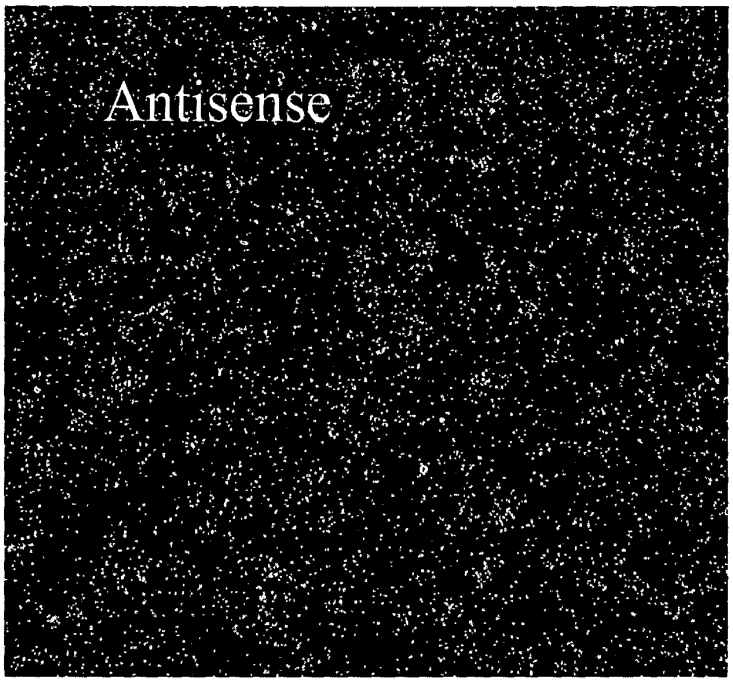


FIG. 12B

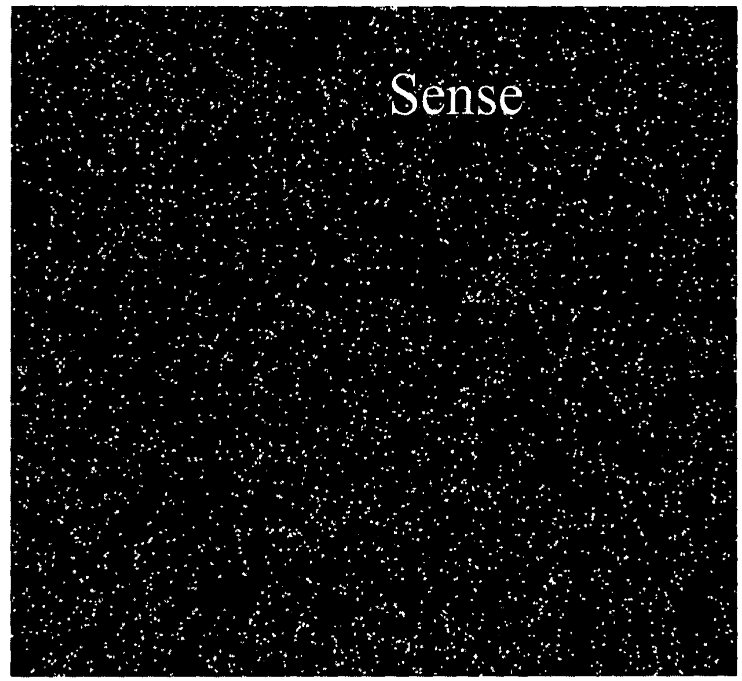


FIG. 13A

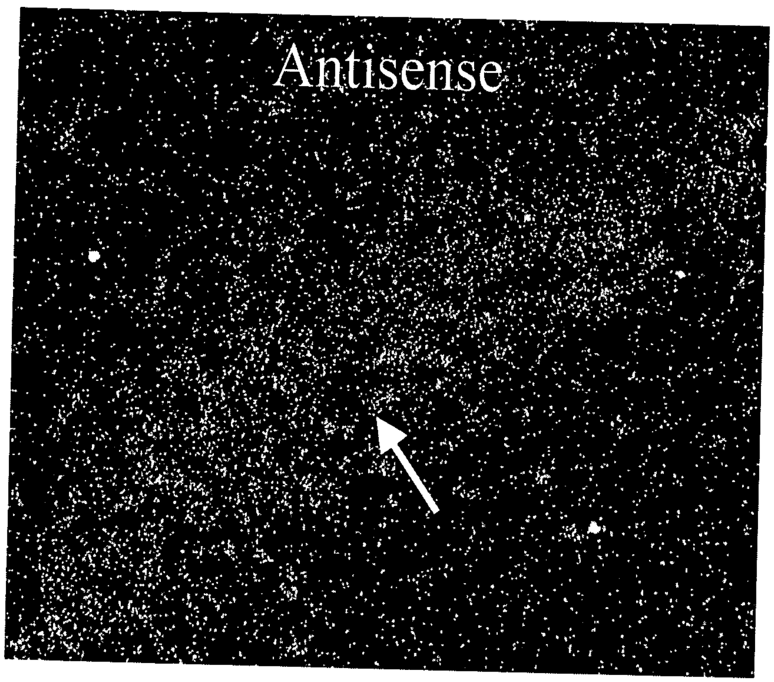


FIG. 13B

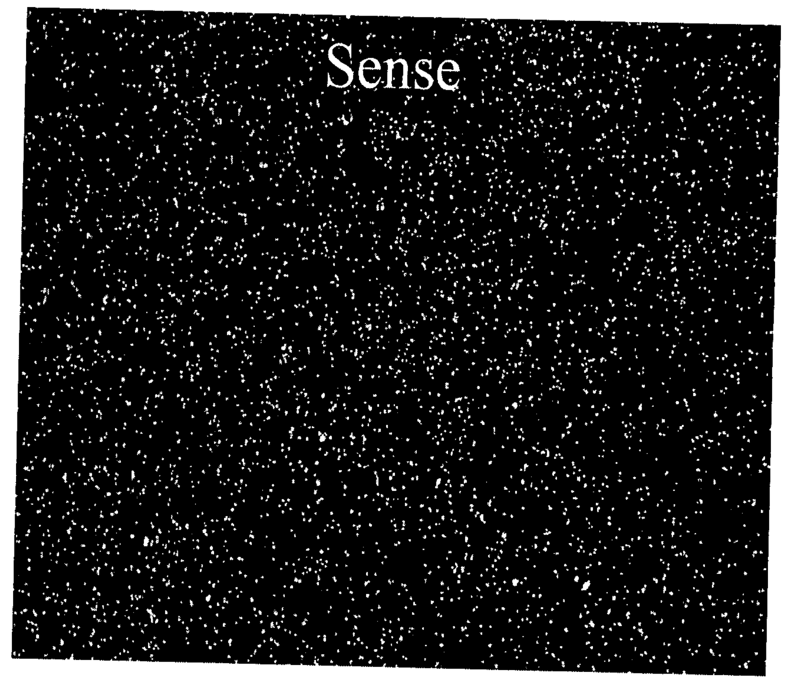


FIG. 14A

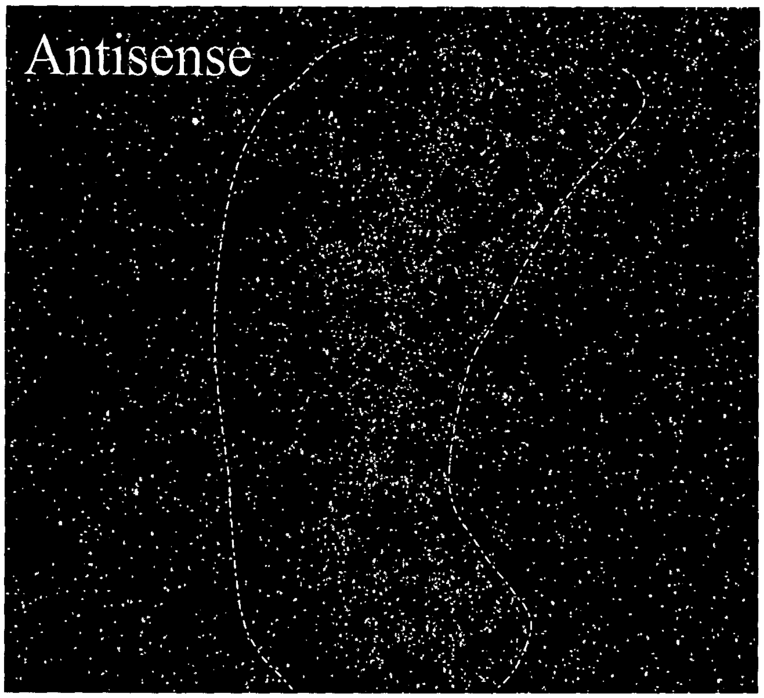


FIG. 14B

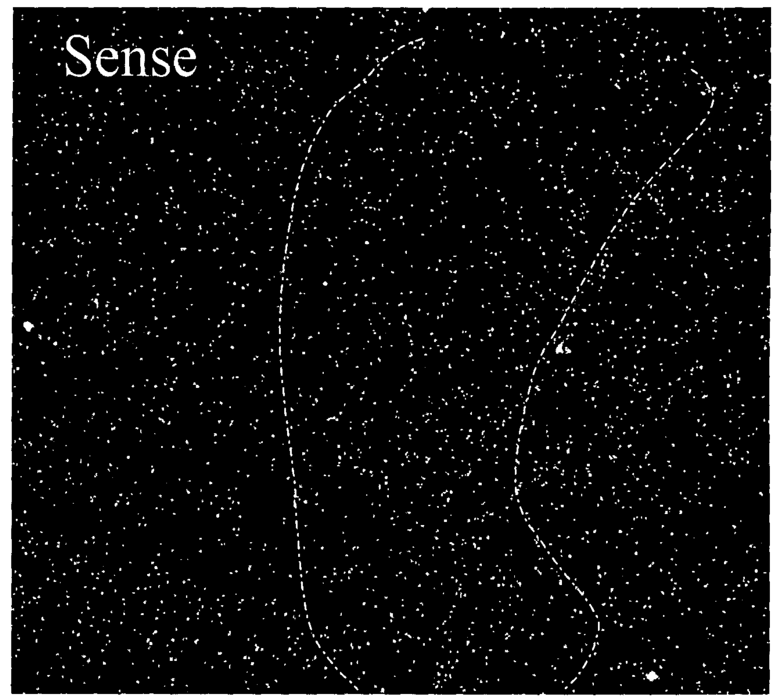


FIG. 15A

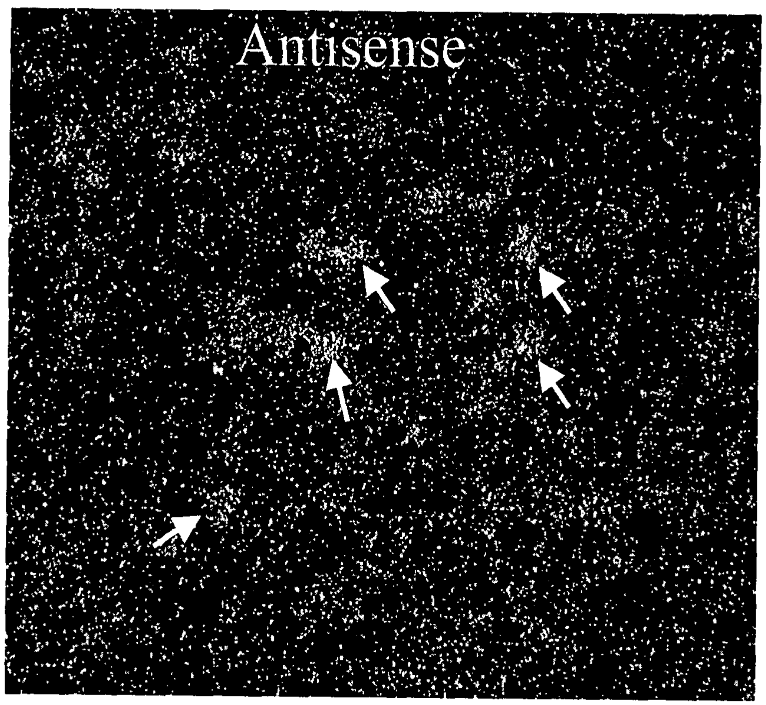


FIG. 15B

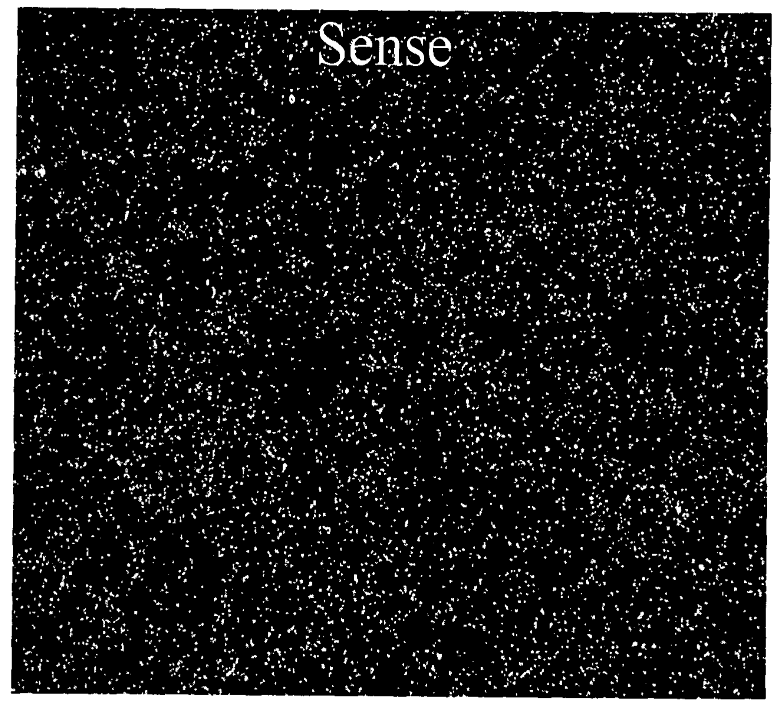


FIG. 16A

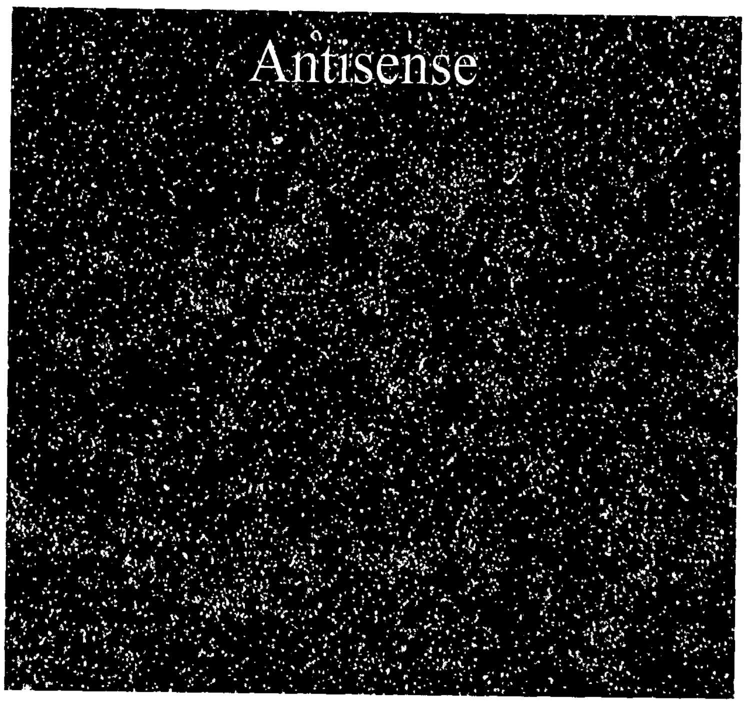
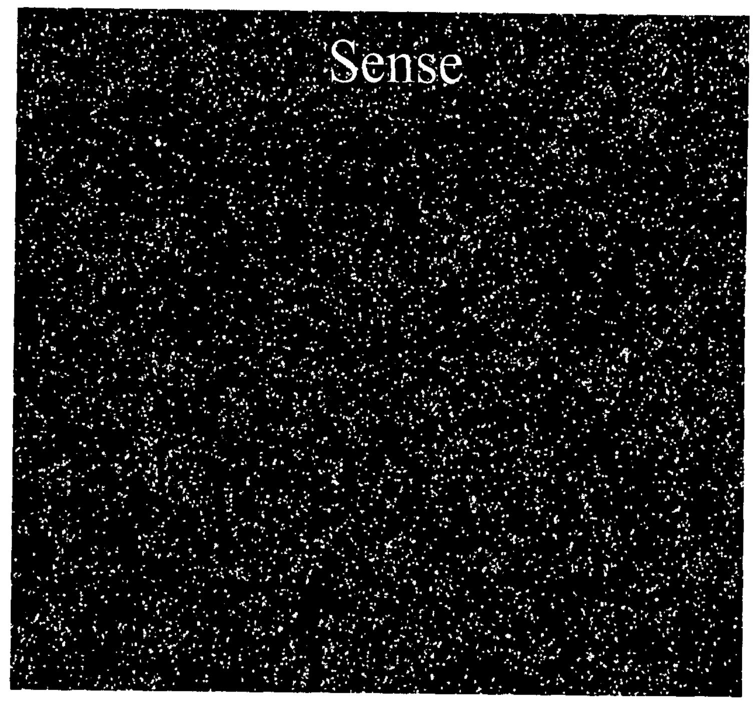


FIG. 16B



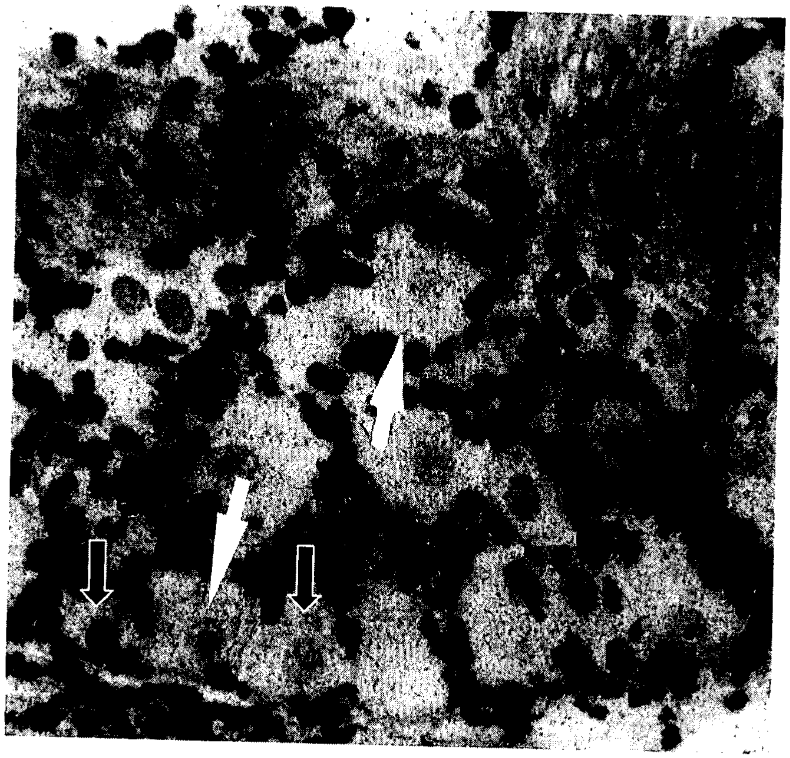


FIG. 17A

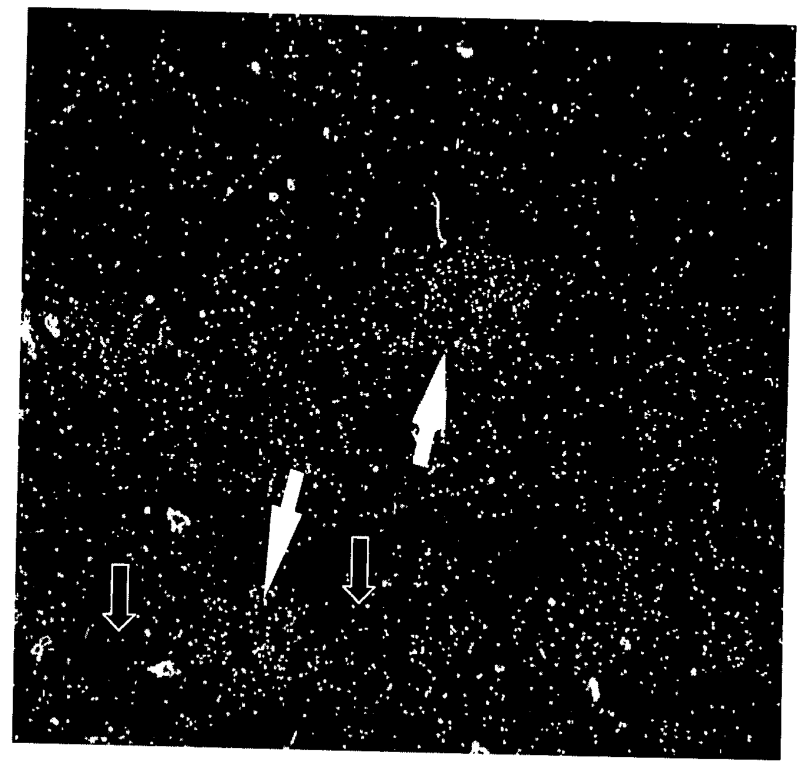


FIG. 17B

FIG. 18A

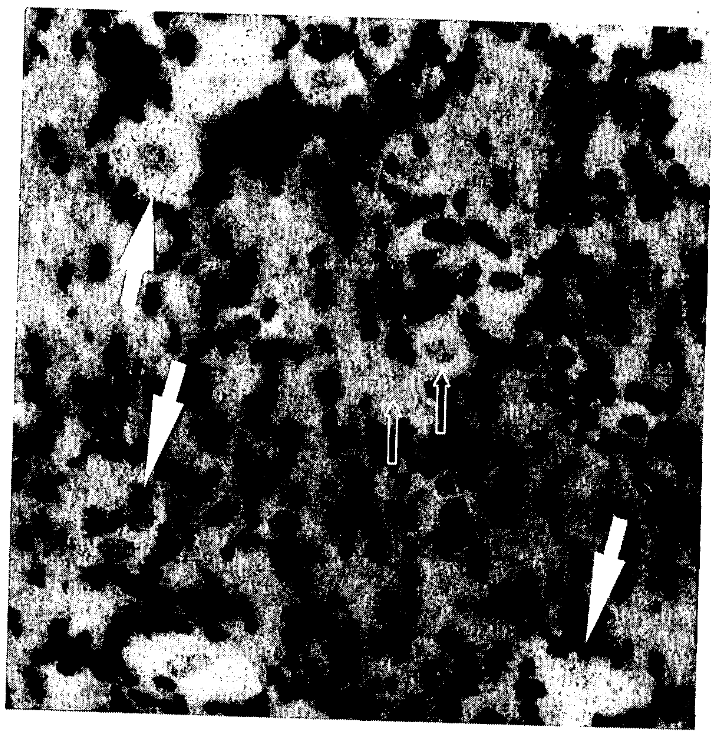


FIG. 18B